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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,782	01/28/2002	Assaf Rubissa	02/23217	1617

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EXAMINER

BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,782

Applicant(s)

RUBISSA ET AL.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/26/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-14 claim both an apparatus and the method steps of using the apparatus resulting in a hybrid claim. The claim is directed to neither a “process” nor a “machine,” but rather embraces or overlaps two different statutory classes of invention set forth in 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-14 claim both an apparatus and the method steps of using the apparatus resulting in an ambiguous hybrid claim. Such claims have been held indefinite under 35 USC 112, second paragraph. *Ex parte Lyell* 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Sutherland (U.S. Patent No. 6,867,888).

Regarding claim 15, Sutherland teaches a system for switching and routing, while logically managing and controlling, multichannel optical signals in an optical communication system, comprising: an optical package (OP) array as an array of H rows by W columns, denoted as an (H x W) dimensioned OP array (Figure 37-44), of (i) optically connected optical switch (OS) elements, wherein a said optical switch (OS) element at a row h and a column w, for h = 1 to H, and, w = 1 to W, respectively, is denoted as OS(h,w), (ii) optically connected left side input ports and bottom side input ports, and, (iii) optically connected right side output ports and top side output ports, whereby each said optical switch (OS) element is a device dynamically activated by an external control and features characteristics of (e.g. electrical stimulus): selectivity to a particular wavelength  $\lambda$ ; (2) when said optical switch (OS) element is not activated, said optical switch (OS) element is transparent, by inducing very small loss, to light in a wavelength range of a multichannel optical signal; and when said optical switch (OS) element is activated, then part of said light at a particular wavelength,  $\lambda$ , is diverted at a pre-determined angle, whereby percentage of said light diverted compared to percentage of said light not diverted is a function of level of activation of said optical switch (OS) element, and, whereby said activated optical switch (OS) element is transparent to all other wavelengths (column 28 lines 48-59); and a management and control logic mechanism (MCLM) (inherent in the

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application of voltage to select/deflect a specific voltage) operatively connected to said optical package array, for logically managing and controlling the switching and routing of said light entering and exiting said optical switch (OS) elements via said optically connected left side input ports and bottom side input ports, and, via said optically connected right side output ports and top side output ports, and, for preventing a conflict of routing components with a same said wavelength,  $\lambda$ , of the optical signals from different said input ports to a same said output port.

Regarding claim 16, Sutherland teaches that said light may travel by entering and/or exiting along said rows and/or along said columns of said optical package (OP) array (see Figures 37-44), whereby (I) said light may enter a said row  $h$  at left side of said optical package (OP) array via a corresponding said left side input port (11) said light may enter a said column  $w$  at bottom side of said optical package (OP) array via a corresponding said bottom side input port, (111) said light may exit from a said row  $h$  at right side of said optical package (OP) array via a corresponding said right side output ports, and, (IV) said light may exit from a said column  $w$  at top side of said optical package (OP) array via a corresponding said top side output port and said light diverted by a particular said optical switch (OS) element is grouped with other said light entering same said optical switch (OS) element and traveling in a same direction as said diverted light.

Regarding claim 17, Sutherland teaches that all said optical switch (OS) elements in a said column  $w$  are selective to a specific said wavelength,  $\lambda_w$ ; when said light traveling in a said row  $h$  hits a said active optical switch (OS) element in a said column  $w$ , at least a portion of a  $\lambda_w$  component of said light is diverted upwards, joining any other said light traveling in same said column; and when said light traveling in a said column  $w$  hits a said active optical switch (OS)

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element in a said row h, at least a portion of said  $\lambda_w$  component of said light is diverted to said right side, joining any other said light traveling in a same said row (column 29 line 11 – column 30 line 8; clearly, the apparatus of Sutherland is capable of functioning in this manner).

Regarding claim 18, Sutherland teaches that each said optical switch (OS) element is a voltage controlled Electroholography based optical switch (column 2 lines 16-67).

Regarding claims 19 and 25, Sutherland teaches that can be scaled up to any desired size and configuration (note Figures 37-44).

Regarding claim 20, Sutherland teaches that the device can be used as an all-optical cross connect (column 2 lines 16-67).

Regarding claims 21-22, the device of Sutherland is capable of accommodating a large number of different wavelengths.

Regarding claim 23-24, the optional elements claimed, while not shown in Sutherland, could be accommodated by the system of Sutherland.

Regarding claim 26-28, the system of Sutherland is capable of being used by one skilled in the art for the functions claimed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

  
**AGUSTIN BELLO**  
**PATENT EXAMINER**  
05/23/05